

IN THE CLAIMS

1. (currently amended) An audio and video reproduction apparatus, comprising:

a head mounted display for converting a video signal into an image to present to a user;

a pair of acoustic transducers each used for converting an audio signal into a sound to present to the user;

detection means for detecting an orientation of the head of the user;

image-changing means provided a video signal representing an image stretched over a ~~wider~~360-degree range ~~than a visual field range visible to surrounding~~ the user via the head-mounted display, the image-changing means for extracting a video signal representing an image stretched over the visual-field range visible to the user via the head-mounted display from the provided video signal in accordance with the detected orientation of the head of the user and for supplying the extracted video signal to the head-mounted display; and

sound-image localization processing means for performing out-of-head sound-image localization processing based on transfer functions from a sound-image localized position of a provided audio signal to ears of the user in accordance with the detected orientation of the head of the user to produce a two-channel audio signal and for supplying the two-channel audio signal to the acoustic transducers.

2. (previously presented) The audio and video reproduction apparatus according to claim 1, wherein the pair of acoustic transducers are one of headphones mounted on the head of the user and a pair of earphones attached to ears of the user.

3. (previously presented) The audio and video reproduction apparatus according to claim 1, wherein the pair of acoustic transducers are speakers provided at positions close to the ears of the user.

4. (previously presented) The audio and video reproduction apparatus according to claim 1, wherein the detection means comprises a sensor mounted on the head of the user and a conversion unit for converting a detection signal generated by the sensor into a signal representing the orientation of the head of the user.

5. (canceled)

6. (canceled)

7. (previously presented) The audio and video reproduction apparatus according to claim 1, wherein the image-changing means is a video synthesis circuit for synthesizing video signals representing images stretched over a visual-field range visible to the user via the head-mounted display in accordance with the orientation of the head of the user.

8. (canceled)

9. (previously presented) The audio and video reproduction apparatus according to claim 1, wherein the sound-image localization processing means converts an audio signal representing a sound covering a 360-degree range surrounding the user into an audio signal that is supplied to the pair of acoustic transducers as a reproduction signal as if the reproduced sound image were localized outside the head of the user.

10. (previously presented) The audio and video reproduction apparatus according to claim 1, wherein the video signal supplied to the head-mounted display and the audio signals supplied to the acoustic transducers are reproduced from a recording medium.

11. (previously presented) The audio and video reproduction apparatus according to claim 1, wherein the video signal supplied to the head-mounted display and the audio signals supplied to the acoustic transducers are received from a network real-time.

12. (currently amended) An audio and video reproduction apparatus, comprising:

a head-mounted display that converts a video signal into an image to present to a user;

a pair of acoustic transducers that converts an audio signal into a sound to present to the user;

magnetic or gyroscopic head orientation detector that determines changing orientation of the head of the user;

image-changing processor configured to receive a video signal representing an image of a ~~wider-360-degree range than a visual field range visible to~~ surrounding the user ~~with~~ of the head-mounted display and to extract, from the received video signal, a video signal representing an image of a visual-field range visible to the user of the head-mounted display as a function of the changing orientation of the head of the user as detected by the head orientation detector and to provide the extracted video signal for presenting to the user by the head-mounted display; and

sound-image localization processor circuit configured to perform out-of-head localization processing to control a

change in a sound image localized position of a provided audio signal by filtering the audio signal to produce a two-channel audio signal as a function of the changing orientation of the head of the user as detected by the head orientation detector.